

**AMENDMENTS TO THE CLAIMS**

1-169 (canceled).

170. (original) A method for producing an immune response, comprising:

- a) providing:
  - i) an animal; and
  - ii) a composition comprising one or more of:
    - 1) a polypeptide comprising a non-primate hepadnavirus core antigen amino acid sequence linked to a heterologous antigen, wherein said hepadnavirus core antigen comprises a loop region, and
    - 2) an expression vector encoding said polypeptide; and
- b) administering said composition to said animal under conditions such that an immune response is generated to said heterologous antigen.

171. (original) The method of Claim 170, wherein said immune response comprises one or more of lymphocyte proliferative response, cytokine response and antibody response.

172. (original) The method of Claim 171, wherein said antibody response comprises production of IgG antibodies.

173. (original) The method of Claim 172, wherein said IgG antibodies comprise autoantibody.

174. (original) The method of Claim 170, wherein said non-primate hepadnavirus core antigen sequence is a rodent hepadnavirus core antigen sequence.

175. (original) The method of Claim 170, wherein said non-primate hepadnavirus core antigen sequence is an avihepadnavirus core antigen sequence.

176. (original) A method for producing an immune response, comprising:

- a) providing:
  - i) an animal; and
  - ii) a composition comprising one or more of:
    - 1) a polypeptide comprising a heterologous antigen linked to one or more primate hepadnavirus core antigen sequence that comprises a loop region, wherein the C-terminal sequence of the hepadnavirus core antigen sequence is replaced by from 1 to 100 amino acids, and wherein said 1 to 100 amino acids does not consist of cysteine or of the wild type C-terminal sequence of said hepadnavirus core antigen; and
    - 2) an expression vector encoding said polypeptide; and
- b) administering said composition to said animal under conditions such that an immune response is generated to said heterologous antigen.

177. (original) The method of Claim 176, wherein said immune response comprises one or more of lymphocyte proliferative response, cytokine response and antibody response.

178. (original) The method of Claim 177, wherein said antibody response comprises production of IgG antibodies.

179. (original) The method of Claim 178, wherein said IgG antibodies comprise an autoantibody.

180. (original) The method of Claim 176, wherein said primate hepadnavirus core antigen sequence is a human hepatitis B virus core antigen sequence.

181. (original) The method of Claim 176, wherein said primate hepadnavirus core antigen sequence is a non-human primate hepadnavirus core antigen sequence.

182-187 (canceled).